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10/588,500

08/04/2006

Takaaki Miyoshi

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21171 7590 03/23/2010

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EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/23/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/588,500 | <b>Applicant(s)</b><br>MIYOSHI, TAKAAKI |  |
|                              | <b>Examiner</b><br>Jeffrey C. Mullis | <b>Art Unit</b><br>1796                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicants are reminded that claims 18-20 are non elected. Therefore the status identifier should recite "withdrawn".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (either US 2004/0157978 or WO 02/0094936) in view of Kusano et al. (US 5,616,652).

The primary reference '978 (equivalent to WO '936) discloses a composition containing all of applicants components (abstract). Note paragraph 105 for use of a polyamide/conductive carbon fiber masterbatch.

Kusano et al. discloses a styrenic block copolymer (SBC) having a bulk density of 0.18 or more (abstract), measured by filling a cylinder and dropping it (column 8, lines 33-44), a process which would inherently pack the material. The material may be added to thermoplastic resins such as polyamide at column 7, lines 30-69. Benefits of using the block copolymers are improved handling, high capability to absorb softener, and thorough melting upon mixing (column 2, lines 5-10). Note also that paragraphs 2 and 3 of applicant's published specification discloses that low productivity/feed rate was a problem known in the art at the time of the invention for blending styrenic block copolymers.

The primary reference does not disclose that the SBC used has applicants packed bulk density.

It would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to use the SBC of the secondary reference in place of the SBC of the primary reference in the expectation of advantages such as improved handling, ability to absorb softener, more thorough mixing and higher productivity, absent any showing of suspicing or unexpected results.

Claims 1-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano et al. (US 5,616,652), cited above in view of Miyoshi (US 2003/0139518).

The secondary reference, Miyoshi discloses a composition containing SBC, polyamide, conductive filler and PPO (claims 5-9) and in which a polyamide/conductive filler may be used as a masterbatch (paragraph 119).

Kusano does not disclose any examples in which all of applicants materials are present in combination. However, the goal of Kusano is to improve other processes in which macromolecular materials are melt blended with SBC and especially those containing PPO or polyamide. Hence it would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to add the non SBC components of the secondary reference to the primary reference since doing so would improve the process of the secondary reference as desired by the primary reference absent any showing of surprising or unexpected results.

Applicant's arguments filed 12-14-09 have been fully considered but they are not persuasive. Applicants are correct that Kusano does not disclose polyphenyleneether.

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Nonetheless, the motivation to use the SBC of Kusano in place of the SBC of Nakagawa are the benefits of improved handling, high capability to absorb softener, and thorough melting upon mixing. Such benefits are associated with the SBC, not the thermoplastic to which it is added and therefore those skilled in the art would conclude that such benefits would result from use of the SBC of the secondary reference as the SBC of the primary reference. Kusano broadly discloses addition of "thermoplastic" at column 7, line 24 and the primary reference uses thermoplastics and hence there is ample motivation to use the SBC of the secondary reference as the SBC of the primary reference to achieve the benefits suggested by the secondary reference. The expectation of extending any one of the above benefits to the process of the primary reference would be sufficient to motivate those of ordinary skill to make the proposed modification. However, with regard to improved productivity, the term "productivity" does not appear in the secondary reference, nor is such alleged in the above rejection. However, given what was known in the art at the time of the invention (based on applicants admission at the paragraph bridging pages 2 and 3 of the instant specification that low bulk density leads to low productivity), those skilled in the art would have also expected this benefit to result from use of the SBC of the secondary reference as the SBC of the primary reference especially given that column 2, lines 1-2 of the reference discloses that too low of a bulk density is undesirable. The term "handling" as used by Kusano refers to the ease by which materials are fed to an extruder at column 9, lines 1-6. Kusano and Nakagawa both deal with thermoplastic resin compositions and are therefore analogous art. Dropping a container full of sample

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is an art recognized method for producing packed samples for packed bulk density.

Note Meade (US 4,561,192) at the paragraph bridging columns 7 and 8 in this regard.

The value of 18g/cc is encompassed by the claims and disclosed by Kusano et al. and it is therefore immaterial that Kusano does not disclose any upper limit of density. The examiner sees nothing in Kusano regarding any KRATON product.

With regard to the rejection relying on Kusano and Miyoshi, Kusano is not relied upon for any teaching of the use of PPE. Such usage is taught by Miyoshi as set out above. The process of Kusano involves substituting known SBC's with their SBC. Substitution of the SBC of Miyoshi with that of Kusano would result in the claimed invention. Kusano desires to improve processes using SBC's and hence practicing any prior art processes using Kusano's process (ie replacing prior art SBC's with Kusano's SBC) would meet the goals of Kusano.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis  
M-F, 9-5 pm at telephone number 571 272 1075.

JCM

3-18-09

Jeffrey C. Mullis  
Primary Examiner  
Art Unit 1796

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/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796